Performance Measurement and Monitoring: Theory and Applications

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WHY DO WE NEED OUTCOME MEASURES?

- For describing the impact of interventions
- For estimating the cost of services
- For building the equation of cost, appropriateness and value
- For public accountability about the single most fundamental public good
- For evaluation of the intervention effectiveness

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What Do You Do and How Do You Do It

% Right Things WRONG • Reading Sonogram • Oxytocin Dosage & Timing • Duration of Trial of Labor • Did not Document in Patient Record	% Right Things RIGHT
% Wrong Things WRONG Ordered Unnecessary Test and Misread the Results	% Wrong Things RIGHT Did Surgery Without Complications

AVOIDABLE "DYSQUALITY": [100-(RTR)]

Adapted from Marsa Nelms, ODI

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Is Quality A Competitive Opportunity?

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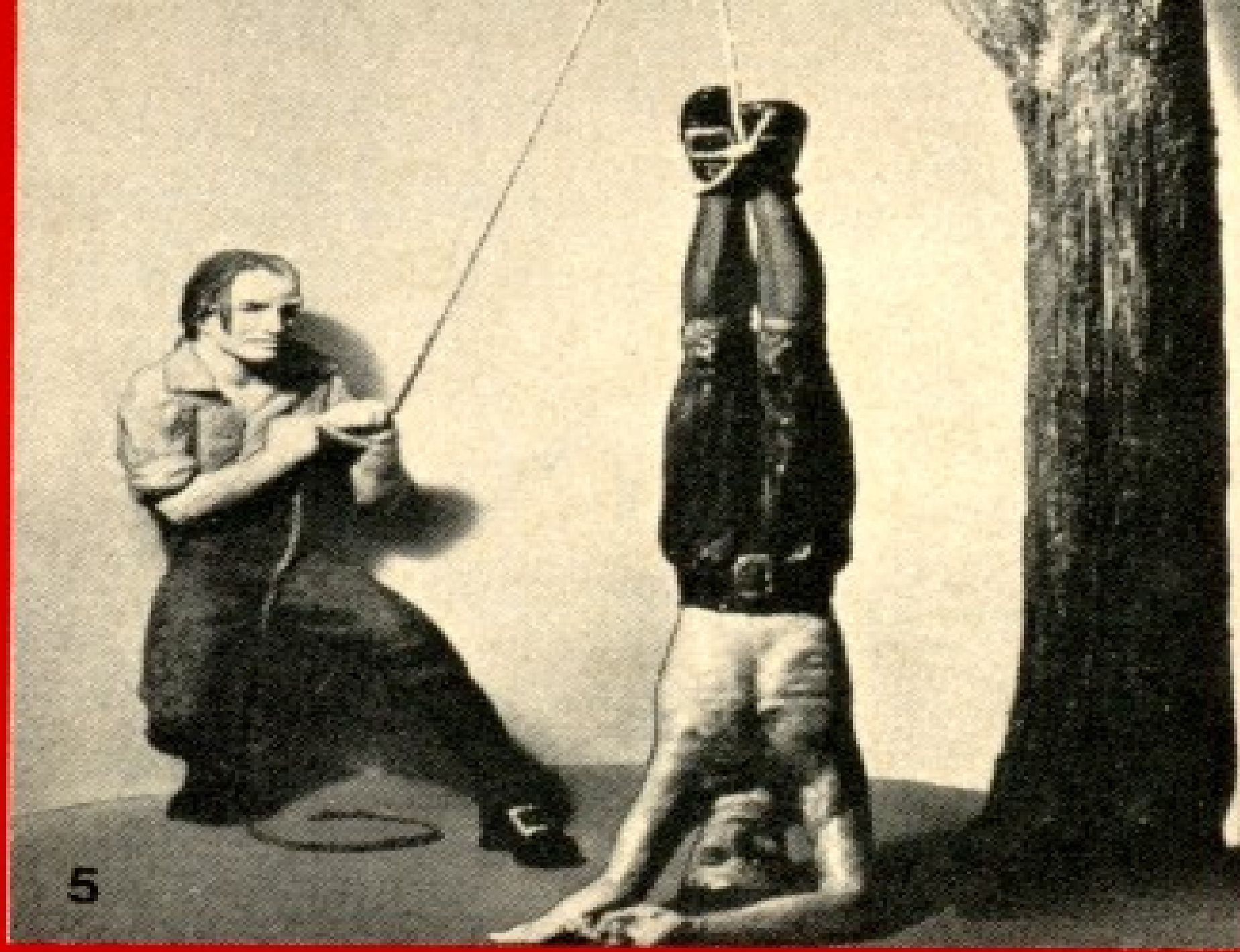
1



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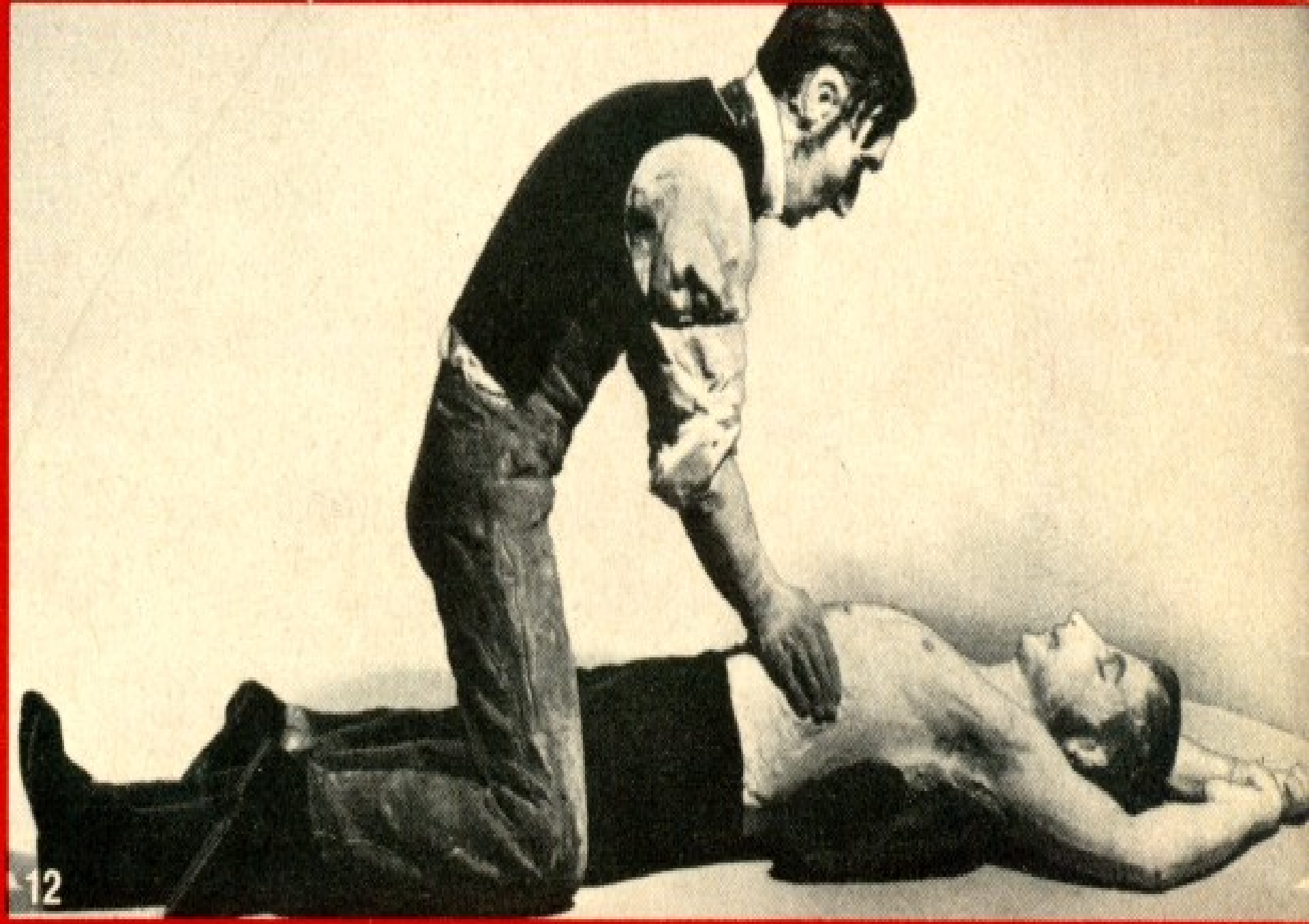
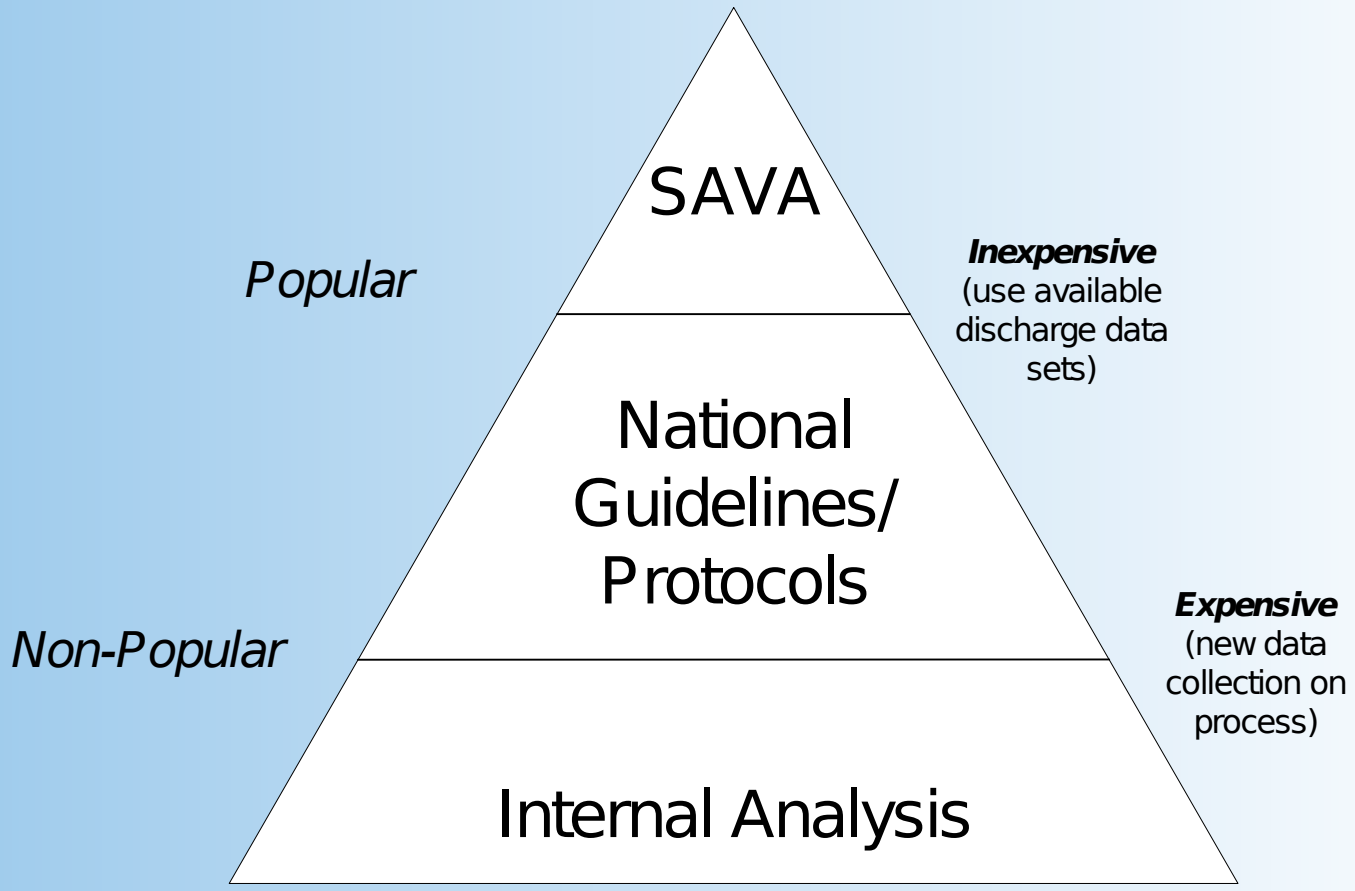


Paradigm Change in Performance Measurement



1970's - 1980's

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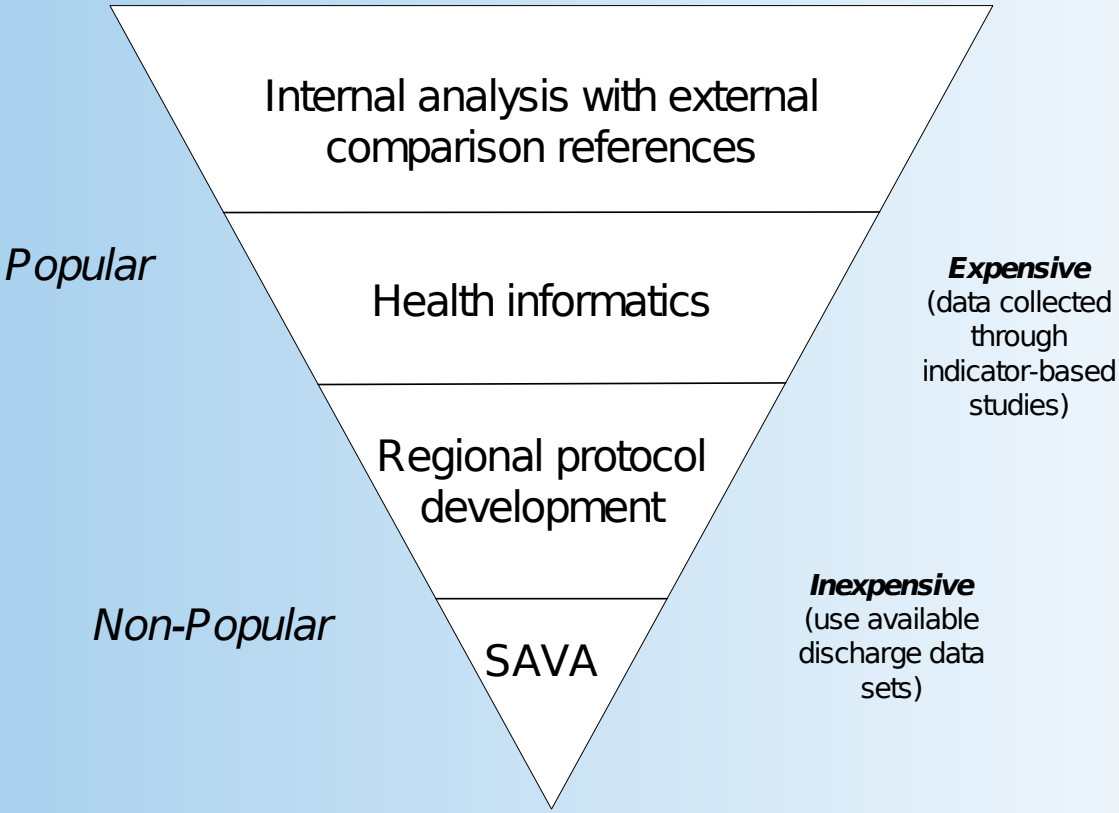
Paradigm Change in Performance Measurement (continued)

1990's



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There is no
“average”
or “mean” patient

There is no
“average”
performance

There is no

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The paradox of modern medicine:

Despite greater knowledge,
the science of medicine is even more uncertain.
The reason is that the practice of medicine is becoming more complex.

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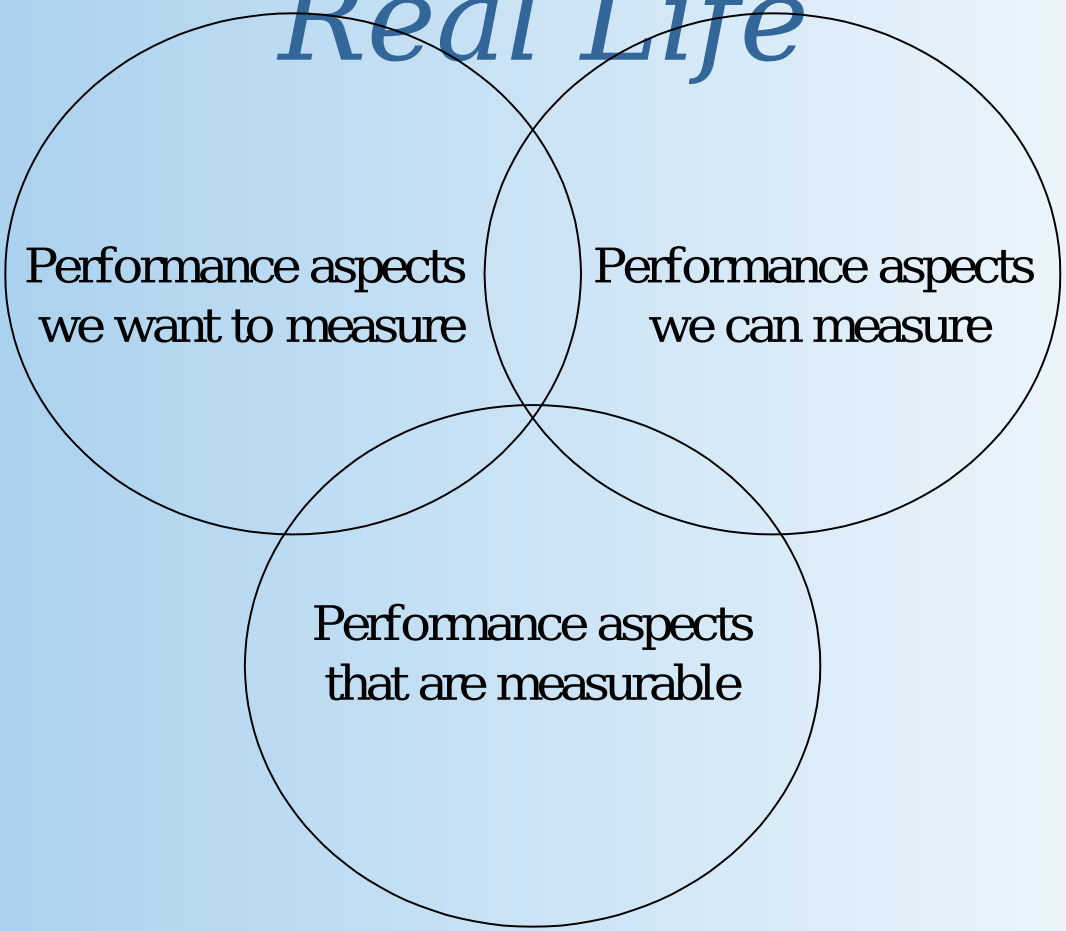
The Way Things Happen in Real Life



Performance Aspects We Should Measure

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THE 5 Ws OF QUALITY IMPROVEMENT

- Where Am I?
- Why Am I Here?
- Where Do I Want To Be?
- What Do I Need To Do To Get There?
- What Has Been Accomplished?

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Ignorance is something
both patients and
providers
have in common
regarding
outcomes of care

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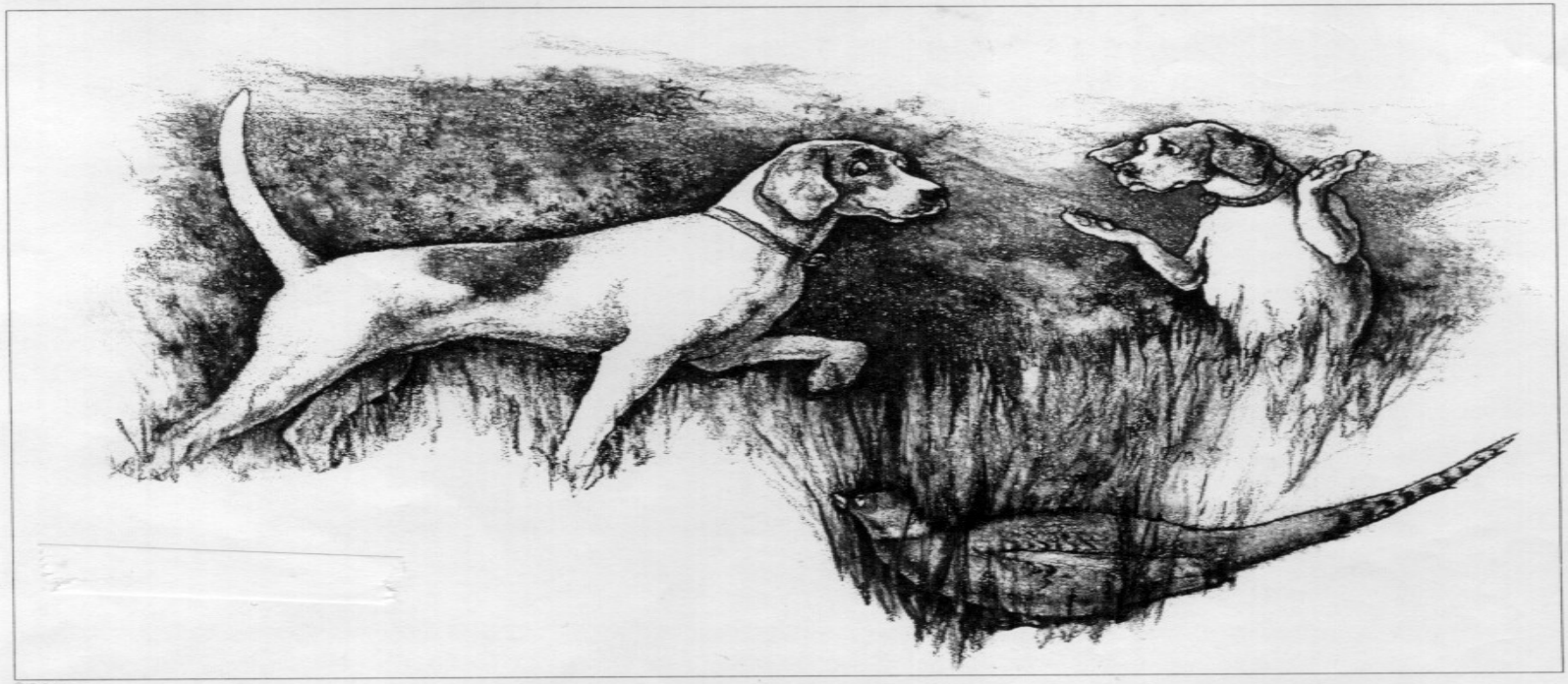
JOURNAL of AMRA
AMERICA'S HEALTH INFORMATION LEADERS
AMERICAN MEDICAL RECORD ASSOCIATION
SEPTEMBER 1991
62 / 9



Performance Indicators: Pointer Dogs in Disguise — A Commentary
KAZANDJIAN

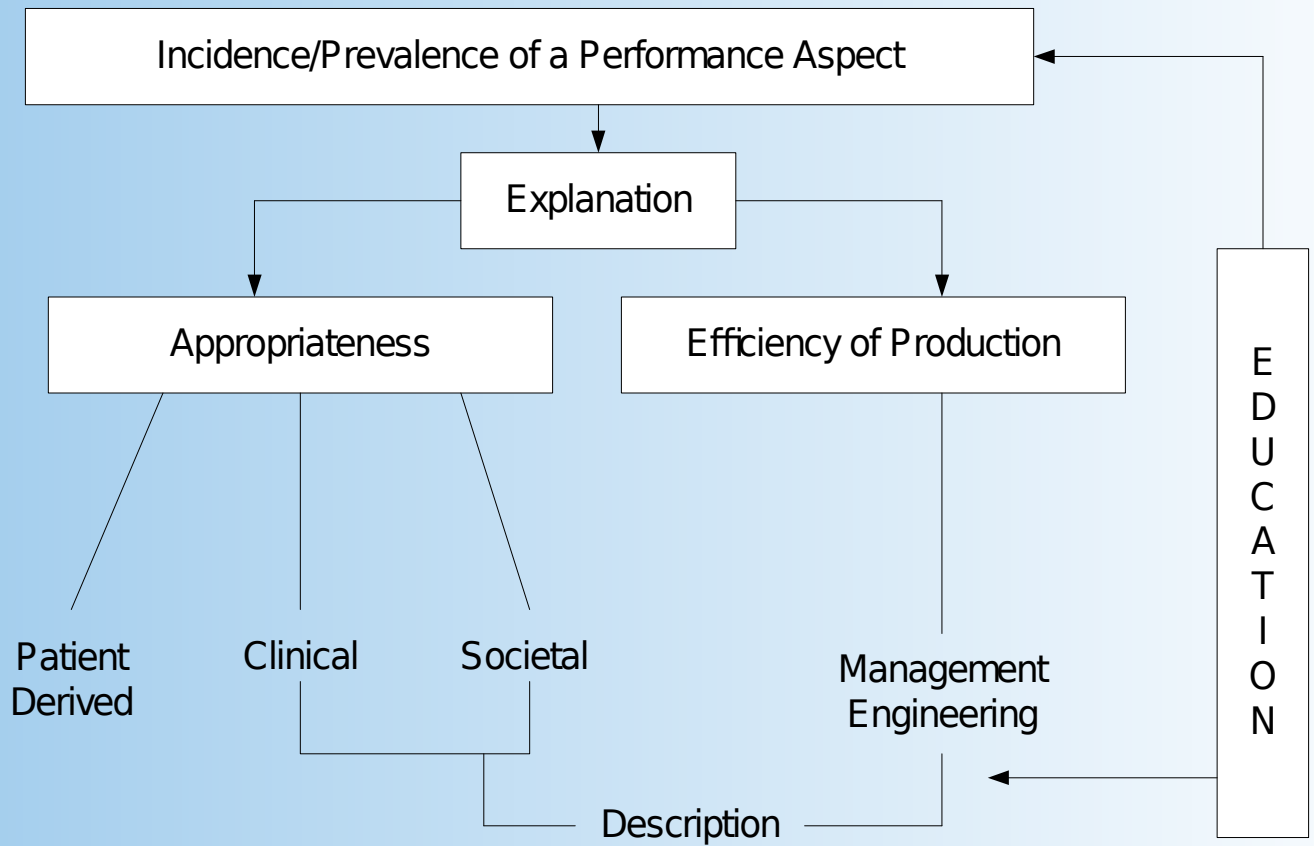
A Vision for Future Patient Records
STEEN AND DETMER

Electronic Signatures: A Brief Overview
NOEL

Medical Records in Healthcare for the Homeless
FRY

Advance Directives
MANNY

A CONCEPTUAL FRAMEWORK FOR THE STUDY OF QUALITY OF CARE



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Predictions are difficult, especially about the future

Yogi Berra

In the 1950's

"A built bed was a filled bed"

In the 1990's

A built bed is a filled bed if dedicated to
long term care

In the year 2010

A built bed may be a bad long

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The Competitive Strategy of Accountability

Yesterday	Today
Tomorrow	
Cost	*Cost and Quality*
Value	

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FUNCTIONAL ASPECTS OF AN INDICATOR PROJECT

1. Should be generic to apply to a wide audience.
2. Should be amenable to adaptation to local needs and traditions.
3. Should be value-free in its reporting.

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4. Data should be minimal in collected volume,
5. Data should yield a few but useful rates.
6. Data collection should not require additional hospital staff.

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7. The indicators should become part of the inquisitive fabric of an organization.
8. Indicators should be modified based on new knowledge.
9. The “natural history of change” should be identified and documented through case studies.

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GUIDING PRINCIPLES

1. Indicators don’t measure quality, people do.
2. Indicators should be valid before being reliable.
3. Both validity and reliability are field tested, not based only on expert opinion.
4. Performance assessment is generic, but performance evaluation is local.
5. When people are willing to know, even imperfect indicators can be useful.

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THE TRUE "REPORT CARD"

- It will be called a "Performance Profile"
- It will not emphasize statistical significance
- It will have four dimensions
  - Clinical
  - Patient Perceptions
  - Production Efficiency
  - Cost

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OUTCOME MEASURES AS "REPORT CARDS"

- May not respond in timely manner to social expectations
- May suggest a "value of goodness"
- May pressure that most "reported to" understand how the "report about" really performed
- May suggest a self-sufficiency status and thus underestimate the need to evaluate processes of care

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A REPORT CARD AFFECTS:

- The Reporting
- The Reportee
- Their Value System(s)

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Outcome Indicators represent the anatomy of performance.

Process Indicators represent the physiology of performance.

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Societal Accountability Should Not Mean Sharing Everything With “Society”:

Some Type Of Information Is For Researchers, Others For Reporters, And Yet Others For General Consumption.

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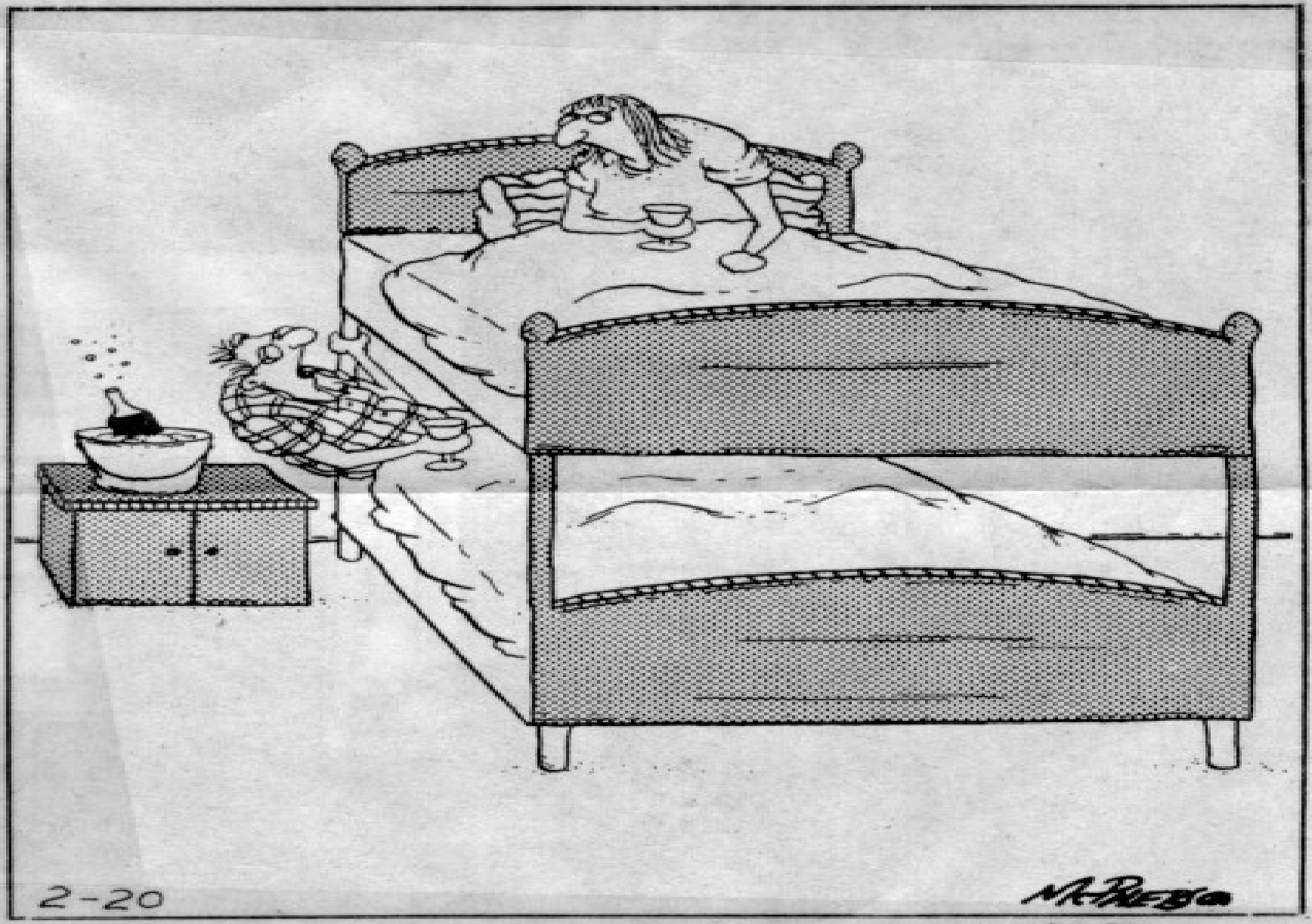
CLOSE TO HOME JOHN MCPHERSON



"Are you sure this is the honeymoon suite?"

Frank & Troise

Vital Review: Healthy but Heavier Clinton

Associated Press

President Clinton has gained six pounds—up to 216 on a 6-2 frame—but otherwise his health statistics are pretty much the same as a year ago.

"We are pleased to report the president continues to demonstrate excellent health and vigor," said his White House physician, E. Connie Mariano, after Clinton, 48, underwent his second annual physical as president yesterday.

Among the details:

- At 210 pounds a year ago, he now is close to the 215 pounds that aides said he weighed in October 1992.
- His blood pressure was 128 over 80, considered within the normal range. A year ago it was 132 over 74. His resting pulse rate was 55. Last year it was 57.
- His total cholesterol level was 203, compared to 204 a year ago. Generally, total cholesterol below 200 is viewed as desirable and from 200 to 239 considered borderline high. It's difficult to make an accurate interpretation based solely on the total cholesterol level, however, and the White House did not supply more detailed figures.

The president was evaluated by a panel composed of both military and civilian specialists headed by Mariano, a general internist.

Asked about the weight gain, White House press secretary Michael McCurry told reporters: "The president has become slightly more muscular over the last year."

WHEN DO YOU THINK IT STARTED?

Babylon nearly 4,000 years ago, during the reign of Hammurabi. The penalty for surgeons who failed to meet the government's standard of care was straightforward: "If a physician shall make a severe wound with an operating knife and kill [the patient] or shall open an abscess with an operating knife and destroy the eye, [the surgeon's] hand shall be cut off."

"**I**n 1856, Dr. William A. Guy, a physician at Kings College Hospital in London, reported that inhabitants of the parish of St. Mary-le-Strand were hospitalized 325 times more frequently than those of the district of Marylebone. In explaining the disparity, he characterized St. Mary-le-Strand residents as an increasing class of working men, in receipt of good wages, who are in the habit of applying to hospitals as a matter of course, even for trifling attacks of illness, to say nothing of those which sometimes follow immediately on expensive acts of self-indulgence."

Regional Variations in Hospital Use, Rotherbery (Ed), Lexington

Don’t squat when waiting for a bus or a person. Don’t spit in public. Don’t point at people with your fingers. Don’t make noise. Don’t laugh loudly. Don’t yell or call to people from a distance. Don’t pick your teeth, pick your nose, blow your nose, pick at your ears, rub your eyes or rub dirt off your skin. Don’t scratch, take off your shoes, burp, stretch or hum.”

From a list of tips to travelers abroad, issued by the

Comparisons are odious (Chap. XIX)

John Fortescue

Circa 1395-1485

Comparisons are odious (Lust's Dominion Act iii. Sc. 4.)

Christopher Marlowe

1565-1593

Comparisons are odious (Scene 5)

William Shakespeare

Much Ado about Nothing

She and comparisons are odious (Elegy 8. "The Comparison")

Dr. John Donne

1573-1631

Comparisons are odious (Chap. xxiii) Don Quixote (Lockhart's Translation)

Miguel de Cervantes

1547-1616

THE PRODUCT OF A HOSPITAL[1]

E.A. Codman, M.D.

The object of this address is to stimulate thought on and discussion of the standardization of hospital. I take it that the work standardization implies a general movement toward improving the quality of the products for which hospital funds are expended. As a rule standards are raised by stimulating the best--not by whipping up the laggards.

Source:. *Surgery, Gynecology, and Obstetrics* 18:491-496, April 1914.
By permission of *Surgery, Gynecology, and Obstetrics*.

[1]An address read before the Philadelphia County Medical Society, May 14, 1913.

THE PRODUCT OF A HOSPITAL[1]

E.A. Codman, M.D.

In various manufacturing businesses I imagine that it is not difficult to render and exact account of the product of a factory. So many dozen tin cans, cakes of soap, toothpicks, or pickled pigs' feet are readily figured up. With educational institutions and hospitals the problem is very different. The statement of the number of patients treated or of students graduated gives but a fraction of the products of such institutions. What, then, are the products of a large hospital, whether in the forms of healed wounds, healthy babies, faithful nurses, promising young surgeons and physicians, or in the more abstract forms of original ideas on pathology or treatment, models of methods of administration, or such intangible things as enthusiasm and ideals?

Source: *Surgery, Gynecology and Obstetrics* 18:491-496, April 1914. By permission of *Surgery, Gynecology, and Obstetrics.*

[1]An address read before the Philadelphia County Medical Society, May 14, 1913.

EPI - DEMOS - LOGOS

(The Study of What Happens to People)

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EPI - NOSOCOMOS -LOGOS

(The Study of What Happens to Hospitals)

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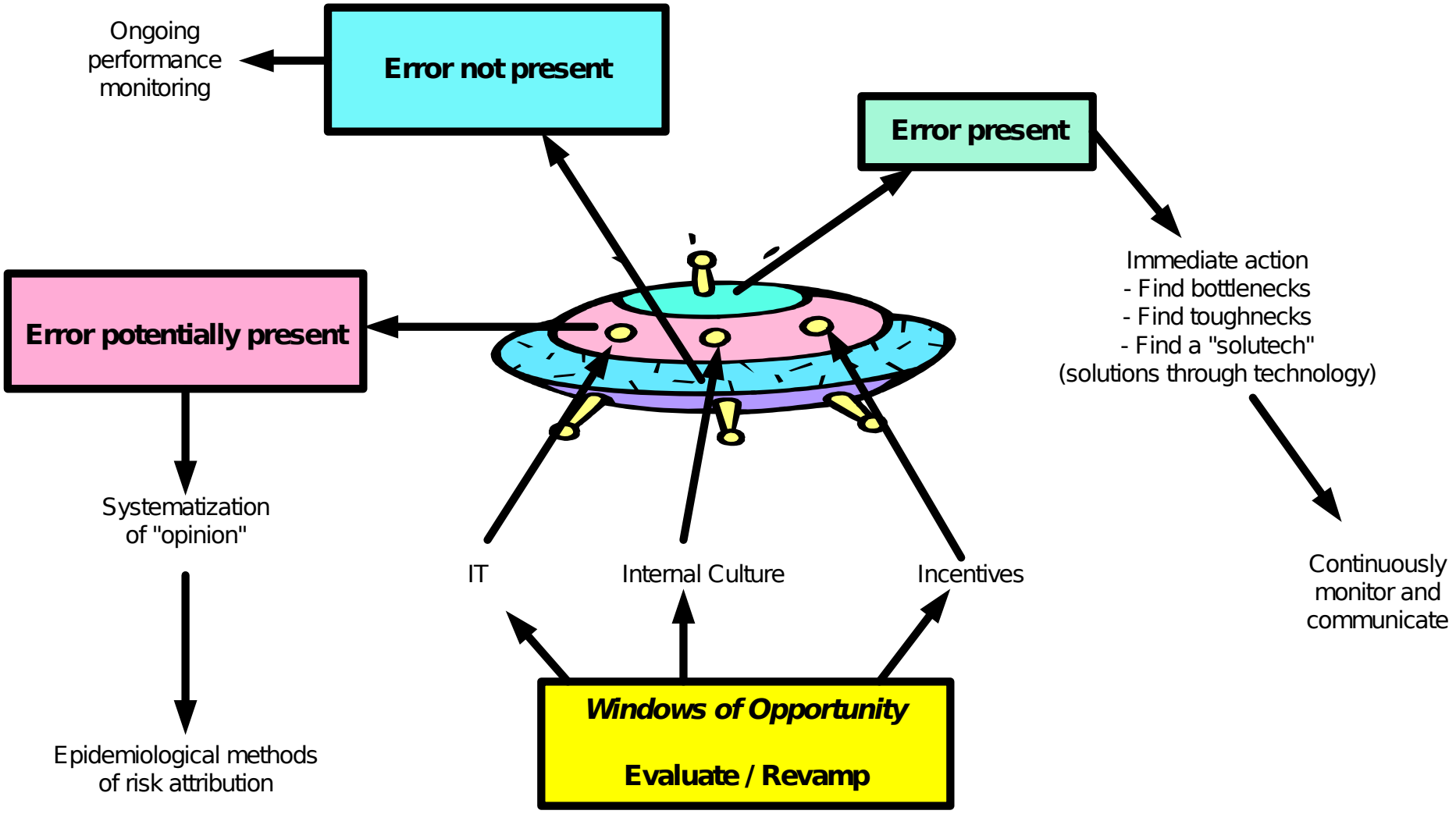
The Safety UFO (**U**nidentified **F**ailures & **O**pportunities)



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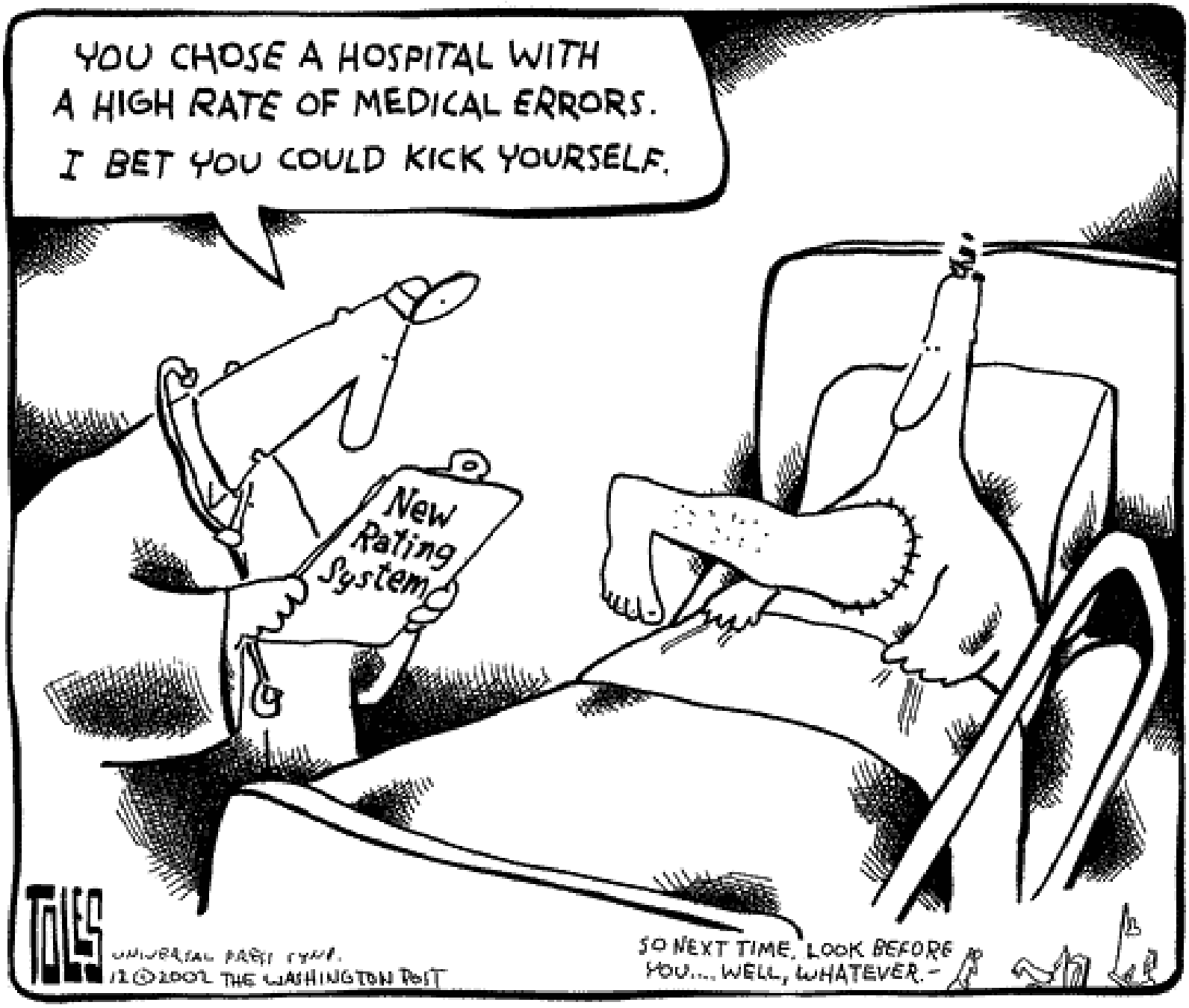
YOU CHOSE A HOSPITAL WITH A HIGH RATE OF MEDICAL ERRORS.
I BET YOU COULD KICK YOURSELF.
New Rating System
TOLES
UNIVERSAL PRESS SYND.
12©2002 THE WASHINGTON POST
SO NEXT TIME, LOOK BEFORE YOU.... WELL, WHATEVER.

12-16-02

Adjusted Rates

The general “concept” can be summarized as:

$$\frac{\text{Actual error rate}}{\text{Expected error rate}} \times \frac{\text{“Areal”}}{\text{Regional rate}}$$

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Actual error rate is what is observed (reported*) and could be stratified by:

- With harm *
- Without harm

* Note that “harm” should not be limited to patients. Errors can also “harm” the provider, the “system of delivery,” and the community at large

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Expected error rate are probability- / likelihood- based. These rates can be derived from:

- The institution's past error profile*
- Reference rates (literature, peer groups, others)

* Note that consistency is not a virtue: you can be consistently wrong…

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Areal error rate is a time-honored concept in health care.

It perpetrates the belief that local norms can differ across regions, yet be perfectly appropriate* to each region.

The areal rate can be the average of a state, or any other geopolitical topographic configuration.

*Note the potential conflict with EBM which proposes that science is universal, hence unaffected by

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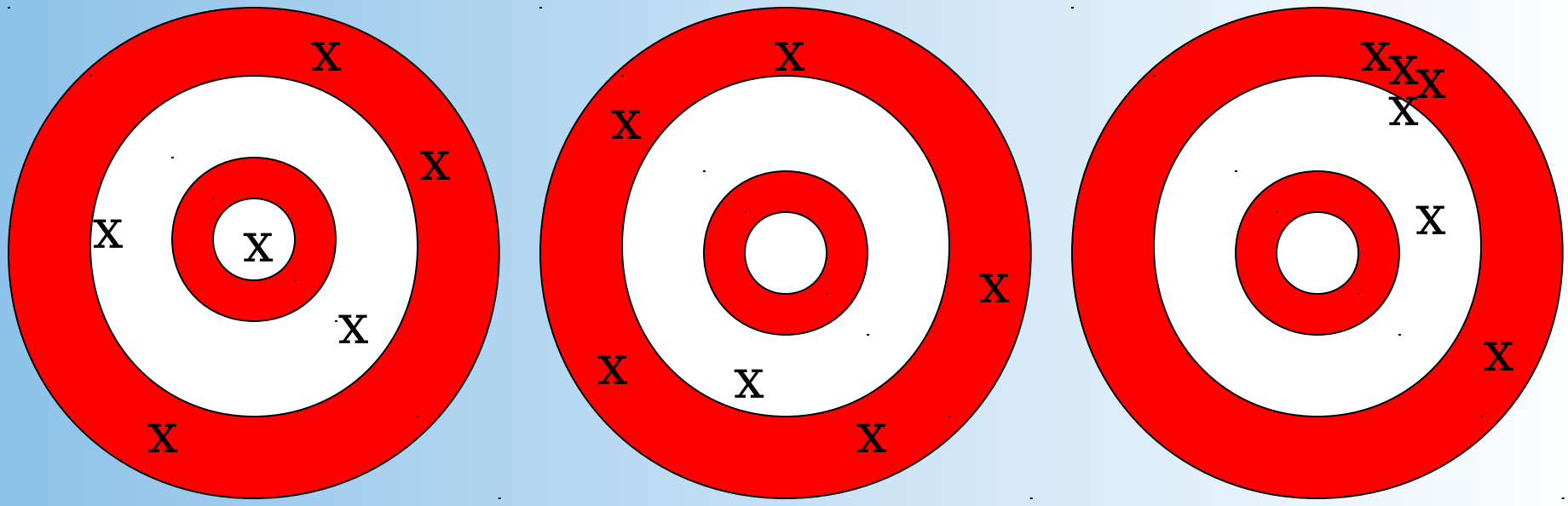
Who Will You Choose as a Body Guard?



A

B

C

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A Rooster Roundup

American roosters wake up the neighborhood by going "cock-a-doodle-doo!" But what about French, German or Polish roosters? Well, they sound pretty much the same, but speakers of foreign languages translate those distinctive squawks a little differently. Here's how the birds sound around the world.

Chinese: gue-gue ou gou-gou
Danish: kykliky
Finnish: kukkokeikuu
French: cocorico
German: kikeriki
Greek: kikiriki
Hebrew: coucouricou
Gaelic: cuc-a-dudal-du
Italian: chicchirichi
Japanese: kou-kou-kou-kou
Dutch: kukeluki
Norwegian: kukkeliky
Polish: kukuryky
Portuguese: cocorococo
Romanian: cucurigu
Russian: kou-ka-re-kou
Serbo-Croatian: kukuriky
Spanish: quiquiriqui
Swedish: kuckeliku

From "The Complete Chicken," copyright Pam Percy. Reprinted with permission of Voyageur Press Inc.; 800-888-9653.

BY BRIAN K. DIGGS—AUSTIN AMERICAN-STATESMAN

What does a rooster say? That depends on what language you speak.

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